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## Theoretical and statistical foundations of agglomerative hierarchical clustering and application to financial data.

### Communication Info

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- (1) Agglomerative hierarchical clustering
- (2) Cluster
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### Abstract

This work presents the theoretical foundations of agglomerative hierarchical clustering (AHC), as well as an application of this technique to financial data.

Firstly, we will outline the mathematical and statistical bases necessary for a better theoretical understanding of this data analysis method. Hierarchical clustering allows for the formation of homogeneous groupings of individuals or variables in order to extract information contained in high-dimensional datasets. Within the framework of this study, we will detail the most commonly used clustering algorithms and explain the mechanisms of the progressive merging of homogeneous groups.

Secondly, this work proposes an application of agglomerative hierarchical clustering to financial data using **SPSS software**. It also presents a financial analysis of the resulting homogeneous clusters of companies.

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